

CLAIMS

*SWB
11*

5

1. A stretchable composite material comprising:

- a) a first layer;
- b) a second layer;
- c) a plurality of elongated elastic members;
- d) the elastic members located between the first and second layers and being in contact with the first and second layers;
- e) regions of securement securing the elastic members, first and second layers; and
- f) the composite having a maximum elongation of at least about 85% of the elongation of an elastic member.

10 2. The composite material of claim 1 in which the elastic members are slightly out of parallel.

15 3. The composite material of claim 1 in which the elastic members are roughly parallel.

4. The composite material of claim 1 in which the plurality of elastic members is comprised of a single strand.

20 5. The composite material of claim 1 in which the regions of securement are approximately the same size and are spaced approximately equally apart from each other.

6. The composite material of claim 1 in which the maximum elongation of the composite is at least about 90% of the elongation of an elastic member.

25 7. The elastic composite material of claim 1 in which the maximum elongation of the composite is at least about 95% of the elongation of an elastic member.

8. The composite material of claim 1 further comprising at least one stiffened edge.

9. The composite material of claim 1 wherein the first layer further comprises a breathable material.

10. The composite material of claim 1 wherein the first layer further comprises a non-breathable material.

11. The composite material of claim 10 wherein the second layer further comprises a breathable material.

12. The composite material of claim 10 wherein the second layer further comprises a non-breathable material.

13. The composite material of claim 10 wherein the second layer further comprises a non-breathable material.

14. The composite material of claims 1, 9, or 10 wherein the first layer further comprises a water impervious material.

15. The composite material of claims 1, 9, or 10 wherein the first layer further comprises a water pervious material.

16. The composite material of claims 1, 11, or 12 wherein the second layer further comprises a water impervious material.

17. The composite material of claims 1, 11, or 12 wherein the second layer further comprises a water pervious material.

18. The composite material of claim 1 further comprising zones of attachment.

19. A stretchable elastic composite comprising a first layer, a second layer, and a plurality of elastic members; the composite further having a machine direction and a cross-machine direction; the length of the

elastic members being roughly transverse to the machine direction; zones of attached elastics interspersed between zones of unattached elastics; the zones of attached elastics being roughly parallel to the machine direction of the composite; the zones of attached elastics extending across at least two of the elastic members; and the composite having pleats that are roughly parallel to the machine direction and extend across at least two of the elastic members.

5 20. The composite material of claim 19 wherein the first layer further comprises a breathable material.

10 21. The composite material of claim 19 wherein the first layer further comprises a non-breathable material.

15 22. The composite material of claim 20 wherein the second layer further comprises a breathable material.

20 23. The composite material of claim 21 wherein the second layer further comprises a non-breathable material.

25 24. The composite material of claim 19, 20, or 21 wherein the second layer further comprises a non-breathable material.

26 25. The composite material of claim 19, 20, or 21 wherein the first layer further comprises a water impervious material.

27 26. The composite material of claim 19, 20, or 21 wherein the first layer further comprises a water pervious material.

28 27. The composite material of claim 19, 22, or 23 wherein the second layer further comprises a water impervious material.

25 28. The composite material of claim 19, 22, or 23 wherein the second layer further comprises a water pervious material.

29. The composite material of claim 19 in which the composite material at the zones of attached elastic exhibit no elasticity.

30. The composite materials of claim 19 in which the composite material at the zones of attached elastic exhibit minimal elasticity.

5 31. The composite materials of claim 19 in which the zones of attached elastic extend across the majority of the elastic members.

32. The composite materials of claim 19 in which the zones of attached elastic further comprise an adhesive.

10 33. The composite materials of claim 19 in which the pleats extend across a majority of the elastic members.

34. The composite material of claim 19, further having at least one stiffened edge.

15 35. A stretchable elastic composite comprising a first layer, and an elastic material; the composite further having a length and width; the elastic material further having a length and a width; the length of the elastic material being roughly transverse to the length of the composite; regions of securement interspersed across the width of the elastic composite and roughly parallel to the length of the composite; the regions of securement extending across the elastic material; the composite having pleats that are roughly parallel to the length of the composite and that extend across a majority of the elastic material; and the composite having a maximum elongation in the widthwise dimension of the composite of at least about 85% of the elongation of the elastic material.

20 25 36. The composite material of claim 35 in which the maximum elongation of the composite is at least about 90% of the elongation of the elastic material.

37. The composite material of claim 35 in which the maximum elongation of the composite is at least about 95% of the elongation of the elastic material.

5 38. The composite material of claim 35 wherein the first layer further comprises a breathable material.

10 39. The composite material of claim 35 wherein the first layer further comprises a non-breathable material.

15 40. The composite material of claim 35, further comprising a second layer wherein the second layer further comprises a breathable material.

41. The composite material of claim 35, further comprising a second layer wherein the second layer further comprises a non-breathable material.

15 42. The composite material of claim 38, further comprising a second layer wherein the second layer further comprises a non-breathable material.

43. The composite material of claim 35, 38, or 39 wherein the first layer further comprises a water impervious material.

20 44. The composite material of claim 35, 38, or 39 wherein the first layer further comprises a water pervious material.

45. The composite material of claim 40, 41, or 42 wherein the second layer further comprises a water impervious material.

46. The composite material of claim 40, 41, or 42 wherein the second layer further comprises a water pervious material.

25 47. The composite material of claim 35 further comprising zones of attachment.

*Sub
C21*

48. A stretchable composite material comprising: a first layer, the first layer being a breathable material; a second layer, the second layer being a breathable material; at least two elastic members, the elastic members positioned in between the first and second layers; regions of securement securing the elastic members, the first layer and the second layer; the regions of securement further comprising attached zones; the attached zones extending traverse and across a majority of the elastic members.

5 49. The composite material of claim 48 further comprising a stiffened edge.

10 50. An article of apparel comprising the composite material of claims 1, 19, 35 or 48.

*sub
A3*